Remarks/Arguments:

Reconsideration of the application is requested.

Claims 1-8, 10-17, and 19-24 remain in the application. Claims 1, 4, 10, 12, 14, 19-21, and 23 have been amended. Claims 9, 18, and 25 have been cancelled.

In item 2 on page 2 of the above-identified Office action, the claims have been objected to because of the following informalities.

More specifically, the Examiner has stated that in claim 1, "imaging the laser fiber exits" should read "imaging the modulated partial laser beams". Claim 1 has been amended so as to facilitate prosecution of the application. Therefore, the objection to claim 1 by the Examiner has been overcome.

The Examiner stated that in claim 12 "an exit pupil" should read "the exit pupil". Claim 12 has been amended so as to facilitate prosecution of the application. Therefore, the objection to claim 12 by the Examiner has been overcome.

The Examiner has stated that in claim 25, "imaging said laser fiber exits" should read "imaging said modulated partial laser

beams". Claim 25 has been cancelled so as to facilitate prosecution of the application. Therefore, the objection to claim 25 by the Examiner is moot.

It is accordingly believed that the specification and the claims meet the requirements of 35 U.S.C. § 112, first and second paragraphs. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic or clarificatory reasons. The changes are not provided for overcoming the prior art nor for any reason related to the statutory requirements for a patent.

In item 4 on page 3 of the Office action, claims 1-7, 14-16, 20, and 24-25 have been rejected as being obvious over Applicants' Admitted Prior Art (hereinafter "Admitted Art") in view of Latta (U.S. Patent No. 4,295,145) under 35 U.S.C. § 103.

The rejection has been noted and the claims have been amended in an effort to even more clearly define the invention of the instant application. The claims are patentable for the reasons set forth below. Support for the changes is found in claims 9 and 14 of the instant application.

Claim 1 has been amended to include the subject matter of claim 9, which was not rejected over the above-mentioned combination of references. Therefore, claim 1 is believed to be allowable over Admitted Art in view of Latta. Claim 14 has been amended to include the subject matter of claim 18, which was not rejected over the above-mentioned combination of references. Therefore, claim 14 is believed to be allowable over Admitted Art in view of Latta.

Since claims 1 and 14 are believed to be allowable over Admitted Art in view of Latta, dependent claims 2-7, 15, 16, 20, and 24 are believed to be allowable over Admitted Art in view of Latta as well.

In item 5 on page 4 of the Office action, claim 8 has been rejected as being obvious over Admitted Art in view of Latta (U.S. Patent No. 4,295,145) and further in view of Shinada (U.S. Patent No. 5,132,834) under 35 U.S.C. § 103. Shinada does not make up for the deficiencies of the Admitted Art and Latta. Since claim 1 is believed to be allowable, dependent claim 8 is believed to be allowable as well.

Even though claim 8 is believed to be allowable, the following comments are made regarding claim 8.

The delay circuit (56) disclosed in Fig. 3 of Shinada serves only to ensure that the image data signals that are processed in different circuit branches and then applied to the AOM driver arrive at the AOM driver simultaneously. The delay circuit (56) compensates for delays of the image data signals in the top branch, via register (50), data converter (52) and DAC (54). The delay circuit (56) compensates inherent delays in the electronics of the control circuit (22).

This is contrary to the instant application, in which the voltage signals to the AOM are applied with a time offset for causing the at least two partial beams to strike the surface in a line as a result of the rotation of the drum. The time offset serves to compensate for the different geometrical positions of the partial beams at their points of incidence on the surface of the drum. Shinada does not disclose such a problem nor does he disclose an application of a delay circuit to solve such a problem. Furthermore, contrary to Shinada, it is not the goal of the instant application to eliminate harmonic distortions.

In item 6 on page 5 of the Office action, claims 9, 11-12, 18-19, and 22 have been rejected as being obvious over Admitted Art in view of Latta (U.S. Patent No. 4,295,145) and further

in view of Kessler et al. (U.S. Patent No. 5,745,153) (hereinafter "Kessler") under 35 U.S.C. § 103. Since the subject matter of claim 9 has been added to claim 1 and the subject matter of claim 18 has been added to claim 14, this rejection will be discussed relative to claims 1 and 14.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claims 1 and 14 call for, *inter alia*:

the optical system having an entry pupil and being disposed downstream of the AOM array with respect to a travel direction of the laser beams, and the laser fiber exits being aligned to converge in a fan shape and for having some of the partial beams intersect in a vicinity of the entry pupil.

The Kessler reference discloses that a plurality of modulated laser beams are focused by an optical system onto a plane of an entrance pupil (24) (front focal plane) of a telecentric printing lens (22). The printing lens (22) is the last lens downstream, in the optical path. The focusing inside the optical system (i.e. in between various lenses), is a regular function of many optical systems. Also, in all of the embodiments of Kessler, Kessler discloses that the laser beams

emitted from the laser array are substantially parallel when they enter the optical system (Figs. 1, 2, 4, 5, 7, and 9). The beams are then focused by an arrangement of at least two cylinder lenses (16 and 18) and a lenslet array (20), onto the plane of the entrance pupil of the printing lens (22).

It is a requirement for a *prima facie* case of obviousness, that the prior art references must teach or suggest **all** the claim limitations.

The references do not show or suggest the optical system having an entry pupil and being disposed downstream of the AOM array with respect to a travel direction of the laser beams, and the laser fiber exits being aligned to converge in a fan shape and for having some of the partial beams intersect in a vicinity of the entry pupil as recited in claims 1 and 14 of the instant application.

The references applied by the Examiner **do not** teach or suggest all the claim limitations. Therefore, it is believed that the Examiner has not produced a *prima facie* case of obviousness.

Furthermore, in the instant application, in order to shorten the overall length of the multibeam scanning device, the laser fiber exits are aligned to converge in a fan shape before the

partial beams enter the optical system. Therefore, contrary to Kessler, the partial beams intersect in a vicinity of an entry pupil of the entire optical system (before they enter the first lens downstream in the optical path). Moreover, the alignment is accomplished mechanically. The fiber exits (19) are inserted into receptacles (23) belonging to the holder (18). The receptacles are created by holes or V-shaped grooves and are disposed radially along a circular arc so that adjacent receptacles (23) have an angular spacing of about 10 mrad (page 16, lines 8-17).

The arrangement of light sources and optical components in Kessler are completely different than in the instant application.

A critical step in analyzing the patentability of claims pursuant to 35 U.S.C. § 103 is casting the mind back to the time of invention, to consider the thinking of one of ordinary skill in the art, guided only by the prior art references and the then-accepted wisdom in the field. See In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614,1617 (Fed. Cir. 1999). Close adherence to this methodology is especially important in cases where the very ease with which the invention can be understood may prompt one "to fall victim to the insidious effect of a hindsight syndrome wherein that which only the

invention taught is used against its teacher." Id. (quoting W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 313 (Fed. Cir. 1983)).

Most if not all inventions arise from a combination of old elements. See In re Rouffet, 149 F.3d 1350, 1357, 47 USPQ2d 1453,1457 (Fed. Cir. 1998). Thus, every element of a claimed invention may often be found in the prior art. See id. However, identification in the prior art of each individual part claimed is insufficient to defeat patentability of the whole claimed invention. See id. Rather, to establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the appellant. See In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 163.5, 1637 (Fed. Cir. 1998); In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125,1127 (Fed. Cir. 1984).

The motivation, suggestion or teaching may come explicitly from statements in the prior art, the knowledge of one of ordinary skill in the art, or, in some cases the nature of the problem to be solved. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. In addition, the teaching, motivation or suggestion may be implicit from the prior art as a whole,

rather than expressly stated in the references. See WMS Gaming, Inc. v. International Game Tech., 184 F.3d 1339, 1355, 51 USPQ2d 1385, 1397 (Fed. Cir. 1999). The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art. See In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981) (and cases cited therein). Whether the examiner relies on an express or an implicit showing, the examiner must provide particular findings related thereto. See Dembiczak, 175 F.3d at 999, 50 USPQ2d at 1617. Broad conclusory statements standing alone are not "evidence." Id. When an examiner relies on general knowledge to negate patentability, that knowledge must be articulated and placed on the record. See In re Lee, 277 F-3d 1338, 1342-45, 61 USPQ2d 1430, 1433-35 (Fed. Cir. 2002).

Upon evaluation of the examiner's comments, it is respectfully believed that the evidence adduced by the examiner is insufficient to establish a prima facie case of obviousness with respect to the claims. Accordingly, the examiner is requested to withdraw the rejection.

It is accordingly believed to be clear that none of the references, whether taken alone or in any combination, either

show or suggest the features of claims 1 or 14. Claims 1 and 14 are, therefore, believed to be patentable over the art and since all of the dependent claims are ultimately dependent on claims 1 or 14, they are believed to be patentable as well.

Since claims 1 and 14 are believed to be allowable, dependent claims 11-12, 19, and 22 are believed to be allowable as well.

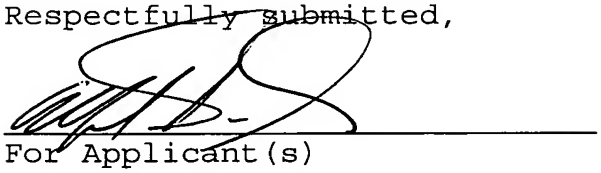
In view of the foregoing, reconsideration and allowance of claims 1-8, 10-17, and 19-24 are solicited.

In the event the Examiner should still find any of the claims to be unpatentable, counsel respectfully requests a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made.

Please charge any other fees which might be due with respect to Sections 1.16 and 1.17 to the Deposit Account of Lerner & Greenberg P.A., No. 12-1099.

Respectfully submitted,



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For Applicant(s)

AKD:cgm

November 21, 2003

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